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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/957,484	09/20/2001	Yoshinori Matsumoto	275778US6	3152
22850	7590	01/31/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			BATTAGLIA, MICHAEL V	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	

2652

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/957,484

Applicant(s)

MATSUMOTO, YOSHINORI

Examiner

Michael V. Battaglia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

*Drawings*

1. The drawings are objected to because Fig. 2, step S6 recites "move optical pickup ahead by 1 track" while the last 3 lines on page 19 specification describe moving the optical pickup back by 1 track. Replacing "ahead" in Fig. 2, step S6 with -back- is suggested. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8 and 9 recite the limitation "said function curve" in lines 2-3 of claim 8 and line 2 of claim 9. There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Verboom et al (hereafter Verboom) (US 5,574,706).

In regard to claim 7, Verboom discloses a recording medium (Fig. 4, element 2). The remainder of the claim limitations describe a program recorded on the disc and do not further limit the structure of the recording medium. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verboom in view of Nakagawa et al (hereafter Nakagawa) (US 5,986,592).

In regard to claims 1 and 6, Verboom discloses a recording and playback apparatus (Fig. 4) and the corresponding method for recording data onto a predetermined recording medium (Fig. 4, element 2) and playing back said data from said recording medium (Col. 1, lines 10-20), said recording and playback apparatus comprising: judgment means for determining whether or not to correct focus precision in an operation (note that the claimed "operation" reads on the "initial calibration" of Col. 3, line 46 and the recording or reproducing on an Nth track because the "initial calibration" must be carried out before the recording or reproducing on an Nth track) to record data onto an Nth track (track neighboring one of the "three SFP tracks" of Col. 3, line 50) of said recording medium or play back data from said Nth track (judgment means is inherent because the "initial calibration" of Col. 3, line 46 is not running at all times and a judgment means would be necessary to determine when to begin the "initial calibration"); computing means (Fig. 4, elements 104 and 162) for computing a performance function value (Col. 5, lines 43-47) based on a jitter value or amplitude of a signal obtained from an already recorded track in the neighbor of said Nth track (one of the "three SFP tracks" of Col. 3, line 50 that neighbors the "Nth track" identified above) (Col. 3, lines 49-59), and correction means (Fig. 4, elements 164, 166, 126 and

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127) for correcting said focus precision if said judgment means determines to correct said focus precision in said operation to record data onto said Nth track of said recording medium or play back data from said Nth track, said correction means operating to correct said focus precision by using said performance function value (Col. 3, lines 39-59; Col. 5, lines 43-47; and Col. 5, line 63-Col. 6, line 26). Verboom does not disclose that the signal is an RF signal. However, Verboom discloses that data are recorded in a run-length-limited (RLL) code (Col. 4, lines 55-57).

Nakagawa discloses obtaining an RF signal to reproduce data recorded on a recording medium in a RLL code (Col. 1, lines 6-9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the obtained signal of Verboom to be an RF signal as suggested by Nakagawa, the motivation being to reproduce the RLL coded data of Verboom.

In regard to claim 4, Verboom discloses that said correction means is capable of correcting said focus precision by using a signal played back from an (N - 1)th track immediately preceding said Nth track (Col. 3, lines 49-59). It is noted that when the Nth track is the track immediately following a one of the three Standard Format Part (SFP) tracks, the nearest SFP that is used to correct focus precision will be the (N-1)th immediately preceding said Nth track.

In regard to claims 8 and 9, Verboom discloses a function curve (" $(A1+A2)-(B1+B2)$ " on Col. 5, line 47). It is noted that the shape of the function curve of Verboom will inherently vary in dependence on said recording medium and on the temperature of said recording medium.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verboom in view of Nakagawa, as applied to claim 1 above, and further in view of Niwayama (US 5,485,443).

Verboom in view of Nakagawa discloses the apparatus of claim 1 that includes a judgment means capable of forming a judgment to correct said focus precision. Verboom does not disclose

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that the judgment to correct said focus precision is made based on if a predetermined period of time is determined to have lapsed.

Niwayama discloses a judgment means capable of forming a judgment to correct said focus precision if a predetermined period of time is determined to have lapsed (Col. 12, lines 1-5).

Niwayama teaches that automatic restoration of an in-focus condition is not always possible due to a decrease in return light caused by an out-of-focus position. By determining if a predetermined period of time has lapsed, focus precision is corrected when automatic restoration fails (Col. 11, lines 51-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the judgment means of Verboom capable of forming a judgment to correct said focus precision if a predetermined period of time is determined to have lapsed as suggested by Niwayama, the motivation being to correct focus precision that cannot be correct by automatic restoration.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verboom in view of Nakagawa, as applied to claim 1 above, and further in view of Koyama et al (hereafter Koyama) (US 5,517,475).

Verboom in view of Nakagawa discloses the apparatus of claim 1 that includes a judgment means capable of forming a judgment to correct said focus precision. Verboom does not disclose that the judgment to correct said focus precision is made based on if a temperature inside a disk drive setting said recording medium is determined to have increased by a predetermined temperature raise.

Koyama discloses a judgment means capable of forming a judgment to correct said focus precision if a temperature inside a disk drive setting said recording medium is determined to have

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increased by a predetermined temperature raise and teaches doing so will correct position shifts of optical parts and a light spot shift caused by temperature change (Fig. 21 and Col. 16, lines 15-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the judgment means of Verboom capable of forming a judgment to correct said focus precision if a temperature inside a disk drive setting said recording medium is determined to have increased by a predetermined temperature raise as suggested by Koyama, the motivation being to correct position shifts of optical parts and a light spot shift caused by temperature change.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verboom in view of Nakagawa, as applied to claim 1 above, and further in view of Tani et al (hereafter Tani) (US 6,574,177).

Verboom in view of Nakagawa discloses the apparatus of claim 1 having a correction means. Verboom does not disclose that the correction means is capable of correcting said focus precision by determining a focus bias value  $f_d$  that provides the absolute value of a difference within a threshold value  $k$  where said difference is a difference in amplitude or a difference in jitters value between a signal obtained at a focus bias of  $(f_d + a)$  and a signal obtained at a focus bias of  $(f_d - a)$ , and notation  $a$  denotes a change quantity.

Tani discloses a correction means capable of correcting said focus precision by determining a focus bias value  $f_d$  that provides the absolute value of a difference within a threshold value  $k$  where said difference is a difference in amplitude or a difference in jitters value between a signal obtained at a focus bias of  $(f_d + a)$  and a signal obtained at a focus bias of  $(f_d - a)$ , and notation  $a$  denotes a change quantity (Fig. 12). The examiner interprets FO of Fig. 12 as  $f_d$  and



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S46 of Fig. 12 as k. The correction means of Tani accurately corrects focus precision so that crosstalk is eliminated and high density reading and recording is possible (Col. 1, lines 45-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the correction means of Verboom with a correction means that determines a focus bias value  $f_d$  that provides the absolute value of a difference within a threshold value  $k$  where said difference is a difference in amplitude or a difference in jitters value between a signal obtained at a focus bias of  $(f_d + a)$  and a signal obtained at a focus bias of  $(f_d - a)$  as suggested by Tani, the motivation being to accurately correct focus precision and eliminate crosstalk and successfully accomplish high density reading and recording.

#### *Citation of Relevant Prior Art*

8. Matsumoto (US 6,842,408) discloses a recording and playback apparatus with a computing means for computing a performance function value based on a jitter value or amplitude of an RF signal obtained from an already recorded track (Fig. 1).

#### *Allowable Subject Matter*

9. Claims 11 and 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the references of record alone or in combination suggest or fairly teach an apparatus or method including all the limitations of claims 1 and 6 respectively and wherein said performance function value is adapted to a function curve that provides more abrupt slope at the peak of the curve.

*Response to Arguments*

10. Applicant's arguments filed May 23, 2005 with respect to claims 1 and 6 have been fully considered but they are not persuasive. Applicant argues that Verboom in view of Nakagawa does not teach computing a performance function value based on a jitter value or amplitude of an RF signal obtained from an already recorded track in the neighborhood of said Nth track. It is noted that claims 1 and 6 recite "in the neighbor of said Nth track" which provides a narrower scope because "an already recorded track in the neighborhood of said Nth track" reads on the Nth track itself while "an already recorded track in the neighbor of said Nth track" does not (a track cannot be its own neighbor but a track is in its own neighborhood). This is relevant because the claims with the broader "neighborhood" limitation would read on Matsumoto (US 6,842,408). The performance function value computed in Verboom is  $(A1+A2)-(B1+B2)$  (Col. 5, line 47). The signal of Verboom in view of Nakagawa is an RF signal (see rejections above). The "three SFP tracks" of Verboom (Col. 3, line 50) are already recorded (Col. 3, lines 39-59). The claimed "Nth track" reads on a track of Verboom neighboring one of the "three SFP tracks" of Verboom. Therefore, "an already recorded track in the neighbor of said Nth track" reads on the one of "three SFP tracks" of Verboom that neighbors said Nth track of Verboom. Each of the values (A1, A2, B1, B2) in the performance function of Verboom ( $(A1+A2)-(B1+B2)$  in Col. 5, line 47) is an amplitude. Focus-offset is established by determining an optimum offset using the performance function of Verboom for each of the "three SFP tracks" of Verboom, which includes the "already recorded track in the neighbor of said Nth track" of Verboom. Therefore, Verboom in view of Nakagawa teaches the claimed "computing a performance function value based on a jitter value or amplitude of an RF signal obtained from an already recorded track in the neighbor of said Nth track."

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11. Applicant's arguments filed May 23, 2005 with respect to claim 7 have been considered but are moot because the claim limitations do not further limit the structure of the recording medium as noted in the rejection of claim 7 above.

12. Applicant's arguments filed May 23, 2005 with respect to claims 2-5, 8 and 9 have been fully considered but they are not persuasive because they depend on Applicant arguments with respect to claims 1 and 6, which are not persuasive for the reasons stated above.

### *Conclusion*

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

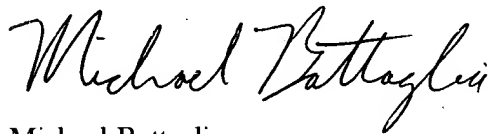
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on M-F, 8:30-5:00.

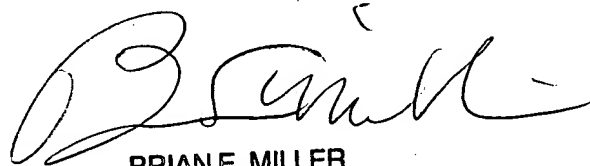
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Battaglia



BRIAN E. MILLER  
PRIMARY EXAMINER